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AUTHOR Moyer, David F.
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ABSTRACT

In spring 1992, a study was conducted at Lehigh County Community College (LCCC), in Pennsylvania, to compare transfer students' mean cumulative grade point average (GPA) at LCCC with their GPA at 26 transfer institutions throughout the state. This investigation differed from two previous LCCC studies, conducted in 1985 and 1989, in that it utilized a more precise definition of a transfer student (i.e., a student with no collegiate experience prior to attending LCCC, who transferred with more than 15 units, and who had earned a minimum of 15 units at the new institution). Transcript release forms for 5 academic years, from 1986-87 through 1990-91, were used to track 610 students to the transfer institutions. Results of the study included the following: (1) generally, GPA's earned at LCCC were similar to those earned at the transfer institutions; (2) a slight improvement in GPA earned at the transfer institution was seen for students who had completed more credits at LCCC; (3) only 3% of the students in the sample had transferred with 15 LCCC credits, 16% with 16-29 credits, and 18% with 30-49 credits; (4) 63% of the students had completed at least 1.5 years at LCCC before transferring; (5) the mean LCCC GPA of all 610 students was 2.94, while the mean transfer GPA was 2.78; and (6) 52% of the students who had earned an associate degree, had also completed a baccalaureate degree, while only 11.4% of those who had transferred without an associate degree had earned a baccalaureate degree. Eleven data tables and 12 brief recommendations are provided. (MAB)

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June 15, 1992

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Lehigh County Community College

Schnecksville, Pennsylvania

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PURPOSE OF STUDY

This study was designed to collect data to describe the geographic range of transcript requests to colleges and universities and to collect data on how Lehigh County Community College students have done academically at the most frequently selected transfer institutions in Pennsylvania.

RATIONALE FOR STUDY

The design of this study evolved from the need to have recent and expanded academic outcomes information for LCCC students who have transferred and to incorporate the data in materials to be used in future transfer student recruitment. This study shares similarities with two previous studies completed by the Office of Institutional Research in 1985 and 1990 and can be used to further assess LCCC's institutional effectiveness in the transfer mission.

In 1985, a transfer follow-up study with 12 colleges and universities, 7 public and 5 private (Lehigh Valley), examined the records of 282 students who released their LCCC academic records during the 1983-84 academic year. Another study examined 276 LCCC students who were matriculated in 1989 at four representative transfer institutions – Kutztown, East Stroudsburg, Allentown College, and Temple. This research examines LCCC transfer student activities from 1986 to 1991 and compares academic outcomes of 610 students who transferred to 27 institutions. This study differs from the 1985 and 1989 research by controlling for a more precise academic definition of a transfer student. In all academic comparisons, students who have had collegiate experience prior to attending LCCC, students who transferred with less than 15 credits, and students who earned less than 15 credits at the transfer institution, were excluded. These controls are of particular importance because of the transient nature of contemporary college students. The original population of 1,224 transfer students to be studied included 302 students (25% of the total population of LCCC transfer students) who had prior college. 623 LCCC records were excluded because students requested transfer with less than 15 credits earned at LCCC. Approximately 200 more were excluded because they completed less than 15 credits at the transfer institution at the time of this study. These controls then, identified first-time LCCC students who experienced at least 15 resident credits and at least 15 transfer institution credits. With this more accurate definition of a transfer student LCCC can develop a better understanding and assessment of the academic experience obtained at LCCC as it relates to academic comparisons at transfer institutions.

LCCC opened its doors in 1967 and soon became a comprehensive institution serving several functions – career, compensatory, community, and collegiate. Students enrolled each semester with the educational goal of completing coursework to transfer to baccalau-

reate degree granting institutions. In the 1970's, the majority of these transfer students were recent high school graduates enrolled full-time. In the 1980's, LCCC experienced a decline in the 17 - 21 year-old career and transfer student enrollment and an increase in the enrollment of part-time adults with transfer aspirations. It is well documented that enrollments in all undergraduate segments of higher education were impacted by the decrease in the pool of the traditional college-bound high school student. Increased marketing and recruiting efforts by colleges, universities, and other post-secondary institutions have been clearly evident. For the past several years LCCC has been in direct competition with four-year colleges and universities to recruit students who aspire to the baccalaureate degree. As our service area contains nine baccalaureate granting institutions, recruiting adult students will continue to be difficult as will recruiting the more geographical mobile recent high school graduates. In our challenging marketing position we must be able to demonstrate that our students transfer and are academically successful.

The task of attracting students to transfer programs at LCCC would seem to be easily accomplished by promoting the major advantages that logically appeal to a very large segment of the high school age and adult populations in our service area. These advantages include low cost, part-time study while working full-time, geographic accessibility to the college, flexible scheduling, developmental and remedial courses, and career planning through sampling and experiencing academic disciplines. In reality, the general public, parents, and high school students know very little about the community college transfer process and many are misinformed about the ease of transfer and the success of LCCC students at the transfer institutions. It is important then that the admissions office has available information that defines and describes the transfer process and illustrates the successful academic experiences of students who have transferred.

BACKGROUND

A highly visible theme in much of the recent literature on the subject of community college transfer is the need for computerized information systems created to track transfer students within an institution or a state system and to facilitate the transfer and articulation process. Louis Bender, in *Spotlight On The Transfer Function* defines transfer as "the movement of students and their academic credit from one school to another and the expectation of equitable treatment with all other students". Bender further defines articulation as "systemic efforts, processes, or services intended to ensure educational continuity and to facilitate orderly progress between levels or segments of institutions on a statewide, regional, or institution to institution basis".[1] These definitions or descriptions reveal the complexities and scope of the two processes. In other words, transfer and articulation requires computerized systems to facilitate admissions, student services (orientation, assessment testing, counseling, advising, financial aid, housing, registration), credit recognition, program and course comparability or equivalency, performance data, and student

tracking from one institution to another and on a statewide basis.[1] Jim Palmer, in an ERIC Review article *Bolstering The Community College Transfer Function* states that "efforts to improve transfer depends largely on the information systems that serve both college personnel and students".[2] The computerized information systems most reported in the literature are those focusing on tracking students from one institution to another and on the rate of transfer. Several states, notably California, Texas, Florida, Illinois, Maryland, Michigan and Connecticut, have developed or are developing statewide data bases designed to track transfer students within their state systems of higher education.

The *Chronicle of Higher Education* reported in an article published in 1990, "by most national estimates, roughly one-third of the students enrolled in two-year colleges plan to continue their education but not more than one-quarter of them transfer to four year institutions, and fewer than that earn baccalaureate degrees."[3] Another estimate, from the American Association Community and Junior Colleges, is that about 29 percent of all two-year college students continue their education at four-year institutions.[4] Other articles quote different rates and percentages that are lower than those given above and the reader is left to question how the figures were calculated and how they should be interpreted. The development of local and statewide tracking systems will have to address the multidimensional problems associated with gathering accurate and meaningful data. In general terms, research on the national, state, and local levels analyzing community college transfer differ greatly on the definition of a transfer student, the methods used for calculating rate of transfer and the measuring of the success of transfer students. Much of the data currently collected is generated through state information systems that are designed for enrollment and student accounting purposes rather than for studies of persistence and performance. With the enrollment and student accounting data available across the country, however, there is general agreement that transfer rates have been declining.

The decline in transfer rates may be a combination of causes rather than a single problem reflecting negatively on the community college transfer mission. In the March '91 *Journal of Higher Education*, W. Norton Grubb offers several reasons for this decline:

1. the rise of vocational or occupational programs in community colleges
2. the apparent weakening of the Academic Associate degree as a route to four year colleges - less sophomore-level transfer courses offered
3. the "milling around" phenomena caused by the increased flexibility of non-traditional enrollment patterns, part-time study and employment, and stopping out
4. the "experimenters" who enter to see whether college is suited to them but who leave in a short period of time
5. the decline of the career counseling function at the high school level causing student to enter community college with vague educational and occupational goals

6. the changing composition of non-traditional students in the community college has greatly increased the number who have difficulty progressing through education
7. the decline in student aid.[7]

The decline of transfer rates during the past twenty years has nevertheless become a political issue, especially with the recent passage of the "Student Right-To-Know Act" with its emphasis on public disclosure of graduation rates. As the 90's begin the community college transfer mission will be characterized by "rising expectations of transfer effectiveness as measured by increases in the number of students who transfer and in their academic achievement."[8]

Pennsylvania does not have a statewide system that tracks community colleges transfer students when they enter and leave four-year baccalaureate institutions. At the present time it is not possible to find complete data that will answer the question of how Pennsylvania community college students do when they transfer to Pennsylvania colleges and universities.

In the spring of 1990 the Pennsylvania Commission For the Universities and the Commission For the Community Colleges of the Commonwealth of Pennsylvania contracted with a consulting firm to study student transfer/articulation among the 27 member institutions of the two commissions and to prepare a report with recommendations for a statewide voluntary student transfer/articulation policy. The final report was scheduled for March 1, 1992. As of December of 1991, the recommendations included a draft document entitled "Pennsylvania Voluntary Transfer/Articulation Agreement" that defines the conditions under which students can transfer between signatory institutions. The presidents of all 27 member institutions have signed the agreement and it is now being reviewed by faculty senates and other organizations within member institutions. Hopefully in the not too distant future the Pennsylvania State System of Higher Education (SSHE) and all the community colleges in the state will have a working transfer/articulation agreement. The implementation of this agreement will require a statewide data system to monitor student flow and performance and frequent meetings of boards and committees to identify problems and initiate corrective actions[9]. Unfortunately, the agreement will only apply to SSHE institutions and will not include state-related commonwealth universities (Lincoln, Pennsylvania State University, Temple University, University of Pittsburgh), state-aided colleges and universities (Delaware Valley College of Science and Agriculture, Drexel University, Hahnemann University, University of Pennsylvania) and sixty-nine private colleges and universities in Pennsylvania. Data collected on actual transfer enrollments of LCCC students who transferred from 1986 to 1991 show that approximately 70% of these students were enrolled in SSHE institutions. A national study completed by Louis Bender in 1991 has verified that "the majority of two-year college students will apply to nearby or local baccalaureate institutions" and "the ideal transfer/articulation agreements would not be mandated statewide but developed cooperatively by community colleges and their local

four year institutions". Bender further emphasizes the development of specific program to program agreements as important components of articulation agreements.

It will be in the best interests of LCCC to continue to develop and strengthen transfer agreements with the local institutions, both public and private, that attract LCCC students. Presently the college has dual and/or deferred admissions agreements with six institutions and 10 transfer agreements with 4 year colleges within a 50 mile radius of Schnecksville.

In addition to written transfer agreements, LCCC has developed strong institution to institution transfer articulation with colleges and universities in our service area and have available to our students course comparison guides from 38 transfer institutions.

As transfer issues are being debated and statewide articulation guidelines developed, LCCC has a continuing need to evaluate institutional effectiveness in the collegiate mission and be able to demonstrate to our many publics the successes of our transfer students.

METHODOLOGY

Origin of LCCC Data Base

The most comprehensive information source currently available to investigate the transfer activities of LCCC students is the copy of the *Transcript Release Form* that is filed according to the year the student requests a copy to be sent to a specific institution. Transcript release forms for five academic years (1986-87, 1987-88, 1988-89, 1989-90, 1990-91) were examined and over 5,000 of those addressed to post-secondary institutions, excluding graduate schools, were sorted by institution and state. Social security numbers were entered on THESIS to obtain the student's in-house academic records that were sorted by institution's located in Pennsylvania.

Liaison with Transfer Institution

Because of the extremely low rate of student questionnaire return reported by researchers doing transfer outcome studies, the decision was made to establish a direct link to the transfer institution's official responsible for the release of enrollment and academic data. Telephone calls identified the officials and permission was granted pending receipt of a letter explaining the purpose of the study and the request for academic records of those students who matriculated.

Selection Criteria for Mailing to Transfer Institution

The LCCC records grouped by transfer institution were sorted again into three groups: (1) Completed a minimum of 15 credits, (2) completed less than 15 credits, (3) attended LCCC summer only. Mailing lists were prepared using names of group 1 students who met the 15 credit minimum. This selection yielded a data base of 4,010 LCCC students whose names were sent to the transfer institution.

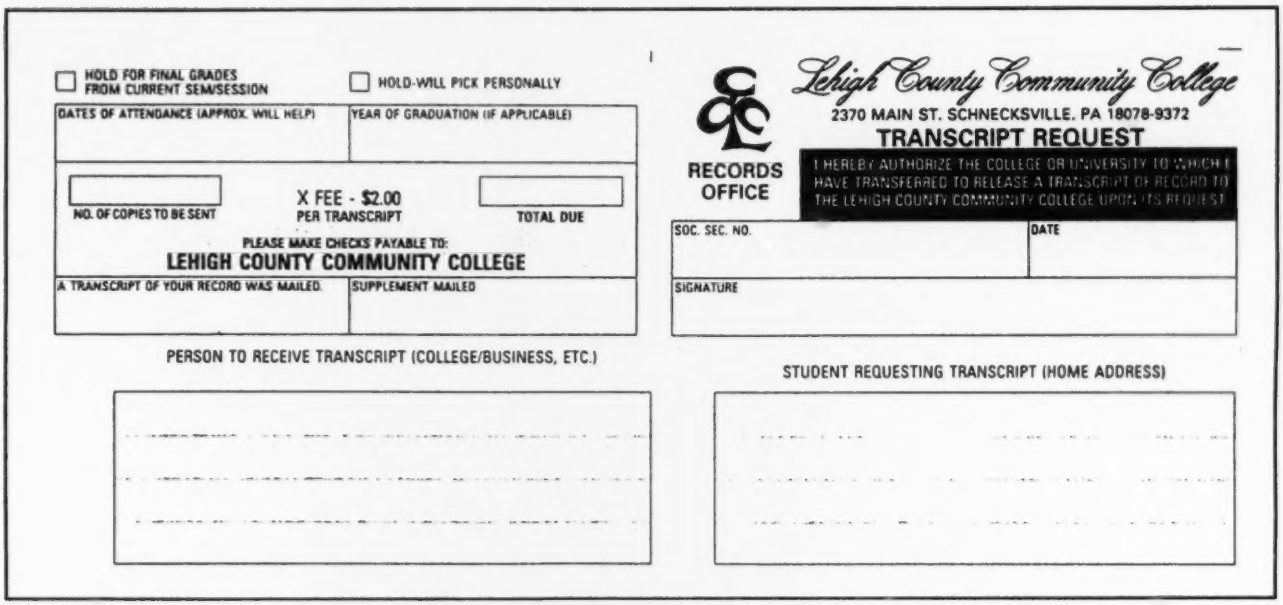
Selection Criteria to Identify Transfer Institution to Include in Study

From the name lists generated by the 15 credit minimum criteria, 30 institutions were selected using a minimum of 10 names. Exception to this was made for the SSHE (State Universities). Unfortunately, no students applied to Cheyney University and only one to Lincoln University. Since a large number of LCCC students sent transcripts to Northampton Community College and St. Lukes Hospital School of Nursing, these two institutions were included in some parts of the study. York College, Messiah, and Alvernia were dropped.

Criteria and Controls for Making Academic Comparisons

In order to make the most meaningful comparisons that address the question of how LCCC students do academically at the transfer institution, mean GPA comparisons in this study eliminated all LCCC students who had prior college experience and eliminated all students who earned less than 15 credits at either institution.

Further controls of academic comparisons were accomplished by grouping (in separate tables) minimum credits earned at each institution – 15 credits, 30 credits, 50+ credits, and grouping separate sets of credits earned at LCCC – 15 credits, 16-29 credits, 30-49 credits, 50+ credits. One grouping eliminates the distortion caused, for example, by comparing a 15 credit LCCC GPA with a 120 credit transfer GPA or a 65 credit LCCC GPA with a 15 credit transfer GPA. The other grouping shows GPA comparisons when a student transfers with few or many credits. Correlations (r) are also given on both tables as a measure of strength in the relationship between the LCCC and transfer mean GPA. (r) becomes stronger as it approaches 1.0, but it is not a reliable statistic when (N) is very low (less than 5).



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RECORDS OFFICE

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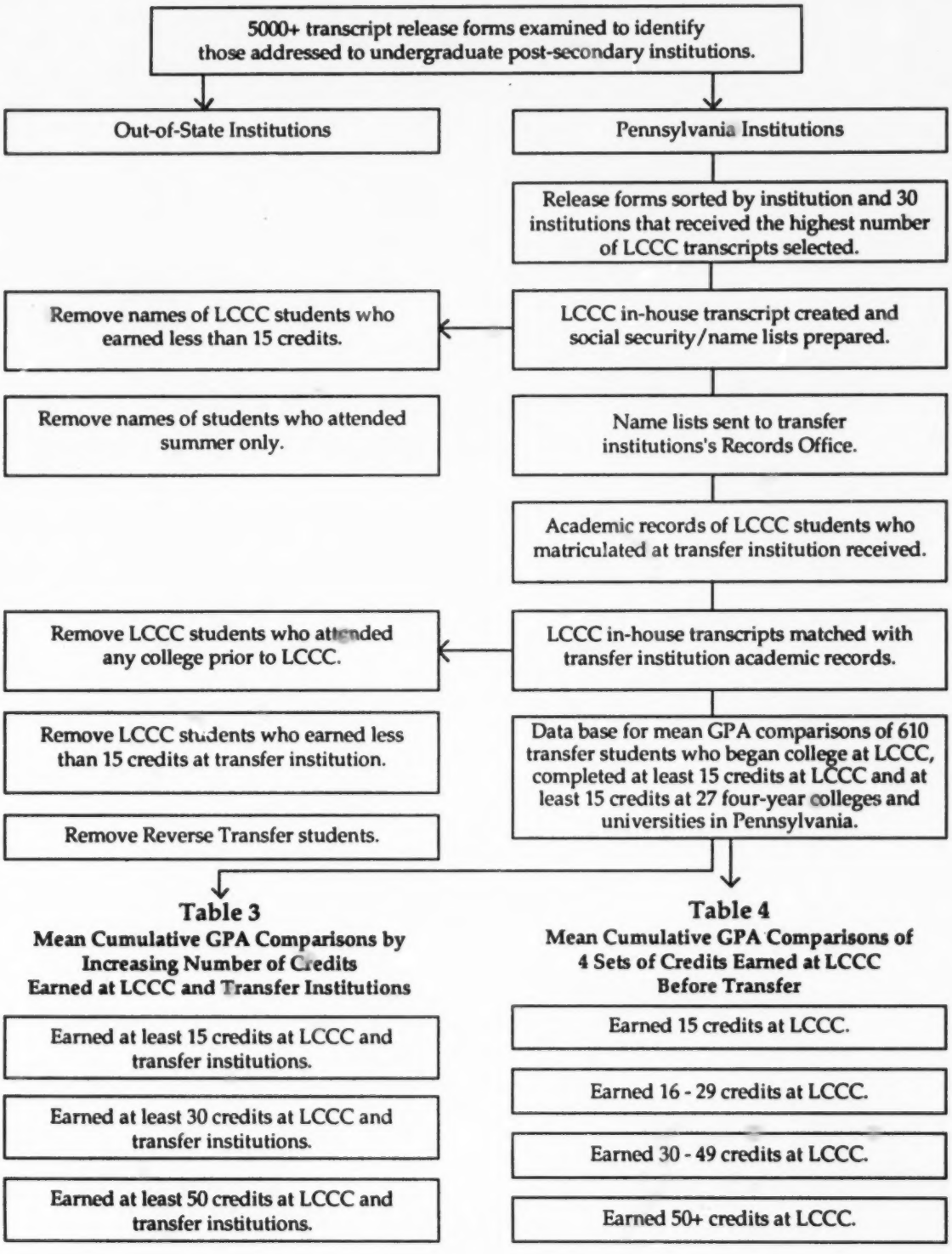
SOC. SEC. NO.	DATE

SIGNATURE

STUDENT REQUESTING TRANSCRIPT (HOME ADDRESS)

Origin of Data Source and the Criteria Used to Establish Data Base for Academic Comparisons


5000+ transcript release forms examined to identify those addressed to undergraduate post-secondary institutions.
Out-of-State Institutions
Pennsylvania Institutions
Release forms sorted by institution and 30 institutions that received the highest number of LCCC transcripts selected.
Remove names of LCCC students who earned less than 15 credits.
LCCC in-house transcript created and social security/name lists prepared.
Remove names of students who attended summer only.
Name lists sent to transfer institutions's Records Office.
Academic records of LCCC students who matriculated at transfer institution received.
Remove LCCC students who attended any college prior to LCCC.
LCCC in-house transcripts matched with transfer institution academic records.
Remove LCCC students who earned less than 15 credits at transfer institution.
Data base for mean GPA comparisons of 610 transfer students who began college at LCCC, completed at least 15 credits at LCCC and at least 15 credits at 27 four-year colleges and universities in Pennsylvania.
Remove Reverse Transfer students.
Table 3
Mean Cumulative GPA Comparisons by Increasing Number of Credits Earned at LCCC and Transfer Institutions
Earned at least 15 credits at LCCC and transfer institutions.
Earned at least 30 credits at LCCC and transfer institutions.
Earned at least 50 credits at LCCC and transfer institutions.
Table 4
Mean Cumulative GPA Comparisons of 4 Sets of Credits Earned at LCCC Before Transfer
Earned 15 credits at LCCC.
Earned 16 - 29 credits at LCCC.
Earned 30 - 49 credits at LCCC.
Earned 50+ credits at LCCC.

RESULTS

Colleges and universities in this study are listed as public or private. Public includes state universities (SSHE), state-related commonwealth universities and state-aided colleges and universities. Northampton Community College and St. Lukes Hospital School of Nursing are included in some tables because of the popularity of these institutions.

TABLE 1: Percent of Actual Transfer of LCCC students who requested transcripts to be sent to selected colleges and universities in Pennsylvania from August 1, 1986 to July 30, 1991.

TABLE 1

	Number of Names Sent to Transfer Institutions	Number of Records Received from Transfer Institutions	Percent of Actual Transfer
Bloomsburg	116	66	57%
California	2	1	50%
Cheyney	0	-	-
Clarion	8	4	50%
East Stroudsburg	126	68	54%
Edinboro	8	7	87%
Indiana	28	16	57%
Kutztown	496	372	75%
Lock Haven	32	13	40%
Mansfield	29	13	45%
Millersville	44	16	36%
Shippensburg	54	27	50%
Slippery Rock	14	8	57%
West Chester	59	25	42%
Lincoln	1	1	100%
PSU - Main	124	39	31%
PSU - Harrisburg	46	26	56%
Temple	116	42	36%

TABLE 1 (cont.)

	Number of Names Sent to Transfer Institutions	Number of Records Received from Transfer Institutions	Percent of Actual Transfer
Delaware Valley	4	1	25%
Drexel	13	6	46%
Phila. Textile	6	6	100%
Allentown College	389	150	39%
Cedar Crest	271	131	48%
C. Misericordia	35	22	63%
Lafayette	48	32	66%
Lehigh	32	22	68%
Moravian	63	37	59%
Muhlenberg	105	73	69%
Phila. Pharmacy	8	2	25%
York	11	5	45%
Northampton County	456	210	46%
St. Lukes	109	39	36%

TABLE 2: Transfer of LCCC graduates to Pennsylvania colleges and universities in addition to most frequently selected institutions in Table 1. (Data from LCCC Placement Reports)

TABLE 2

	Number of LCCC AA & AS Graduates Transferred
Albright	1
Alvernia	4
Carnegie Mellon	1
Kings College	2
Marywood	1
Messiah	1
Spring Garden College	1
Thomas Jefferson	1
Univ. of Pittsburgh	2
Univ. of Scranton	1
Villanova	1
Wilkes	1

Discussion

Tables 1 and 2 display the pattern of actual transfer and is useful to view comparatively the relative distribution of transfer across the state. Since the purpose of Tables 1 and 2 is to show actual transfer and not academic comparisons, students who attended college prior to LCCC *were included*. There are 302 students in this category. Data in Table 2 was taken from the 1985 - 1990 LCCC Placement Reports showing the actual transfer of AA and AS degree graduates. While the placement reports do not track students who did not earn a degree, the combination of both sets of data gives a very good picture of LCCC transfer student matriculation in Pennsylvania. The percent of actual transfer in Table 1 should be interpreted with some caution as it does not mean acceptances or rejections.

TABLE 3

Mean Cumulative Grade Point Average (GPA) Comparisons and Correlations Grouped by Increasing Number of Credits Earned at LCCC and Transfer Institutions

	TOTAL				50+ CREDITS				30+ CREDITS				15+ CREDITS			
	N	LCCC Mean GPA	Trans. Mean GPA	r	N	LCCC Mean GPA	Trans. Mean GPA	r	N	LCCC Mean GPA	Trans. Mean GPA	r	N	LCCC Mean GPA	Trans. Mean GPA	r
Bloomsburg	35	2.91	2.66	.75	10	3.25	3.07	.91	18	3.03	2.99	.76	35	2.91	2.66	.75
California	1	2.63	2.93	–	1	2.63	2.93	–	1	2.63	2.93	–	1	2.63	2.93	–
Clarion	1	3.20	2.18	–	0	–	–	–	0	–	–	–	1	3.20	2.18	–
East Stroudsburg	38	2.68	2.89	.56	15	2.64	3.05	.33	24	2.62	2.92	.58	38	2.68	2.89	.56
Edinboro	3	2.39	2.86	–	0	–	–	–	2	2.40	2.89	–	3	2.39	2.86	–
Indiana	8	2.50	2.17	.91	3	2.91	2.54	–	5	2.61	2.33	.94	8	2.50	2.17	.91
Kutztown	175	2.87	2.86	.64	67	2.88	3.04	.71	111	2.84	2.92	.70	175	2.87	2.86	.64
Lock Haven	8	2.56	2.59	.82	2	2.56	2.99	–	5	2.52	2.78	–	8	2.56	2.59	.82
Mansfield	2	2.65	2.91	–	0	–	–	–	0	–	–	–	2	2.65	2.91	–
Millersville	11	2.96	2.66	.68	2	2.81	2.92	–	7	3.07	2.72	.41	11	2.96	2.66	.68
Shippensburg	16	2.91	2.57	.50	5	3.11	3.00	.80	9	2.89	2.76	.72	16	2.90	2.57	.50
Slippery Rock	4	2.18	2.36	–	1	2.33	2.70	–	2	2.44	2.45	–	4	2.18	2.36	.79
West Chester	12	2.70	2.65	.44	8	2.85	2.94	.66	10	2.77	2.83	.48	12	2.70	2.65	.44
Lincoln	1	2.31	2.38	–	–	–	–	–	1	2.31	2.38	–	1	2.31	2.38	–
PSU - Main	29	3.08	2.98	.45	15	3.08	2.88	.44	22	3.17	2.97	.58	29	3.08	2.98	.45
PSU - Harrisburg	14	3.01	2.59	.25	8	3.04	2.65	.76	11	2.95	2.71	.59	14	3.01	2.59	.25
Temple	34	2.75	2.76	.37	4	2.60	2.60	–	17	2.85	2.90	.33	34	2.75	2.76	.37
Drexel	3	3.37	2.15	–	3	3.37	2.15	–	3	3.37	2.15	–	3	3.37	2.15	–
Phila. Textile	3	2.63	2.62	–	0	–	–	–	0	–	–	–	3	2.63	2.62	–
Allentown College	64	3.09	3.17	.63	28	3.01	3.16	.75	36	2.98	3.13	.64	64	3.09	3.17	.63
Cedar Crest	55	3.17	3.14	.69	18	3.17	3.36	.90	32	3.22	3.28	.83	55	3.17	3.14	.69
C. Misericordia	11	2.81	3.21	.70	5	2.89	3.40	.20	7	2.70	3.26	.76	11	2.81	3.21	.70
Lafayette	15	3.25	2.76	.58	3	3.35	3.14	–	6	3.09	2.65	.87	15	3.25	2.76	.58
Lehigh	8	3.61	2.78	.76	2	3.80	3.49	–	4	3.79	3.32	–	8	3.61	2.78	.76
Moravian	17	3.02	2.87	.74	6	2.86	2.85	.50	8	2.77	2.73	.61	17	3.02	2.87	.74
Muhlenberg	41	3.09	2.92	.45	9	3.27	3.21	.51	21	3.12	3.10	.70	41	3.09	2.91	.45
Phila. Pharmacy	1	3.78	3.39	–	–	–	–	–	–	–	–	–	1	3.78	3.39	–

Discussion

As stated in the criteria for making academic comparisons, Table 3 includes only those students who had no prior college and who earned a minimum of 15 credits at LCCC prior to transfer. Table 3 further controls academic comparisons by grouping according to the minimum credits earned at *each* institution. The mean GPA's of transfer students who earned at least 15, 30 or 50+ credits are being compared to the GPA's they earned after completing at least 15, 30, or 50+ credits at the transfer institution. Totals on Table 3 are the same as 15 or more credits because all students earned at least 15 credits at each institution. An examination of all of the groups shows that, in general, the GPA's earned at LCCC are more similar than different from the GPA's earned at the transfer institution (See Table 5).

TABLE 4

Mean Cumulative Grade Point Average (GPA) Comparisons and Correlations Grouped According to Separate Sets of Credits Completed at LCCC

	15 CREDITS				16-29+ CREDITS				30-49+ CREDITS				50+ CREDITS			
	N	LCCC Mean GPA	Trans. Mean GPA	r	N	LCCC Mean GPA	Trans. Mean GPA	r	N	LCCC Mean GPA	Trans. Mean GPA	r	N	LCCC Mean GPA	Trans. Mean GPA	r
Bloomsburg	3	3.00	2.49	–	7	2.62	2.01	.74	7	2.69	2.88	.62	18	3.10	2.86	.86
California	0	–	–	–	–	–	–	–	–	–	–	–	1	2.63	2.93	–
Clarion	1	3.20	2.18	–	–	–	–	–	–	–	–	–	–	–	–	–
East Stroudsburg	1	2.60	2.62	–	8	2.78	2.91	.84	8	2.69	2.95	.53	21	2.65	2.87	.41
Edinboro	1	2.39	2.86	–	0	–	–	–	2	2.40	2.89	–	–	–	–	–
Indiana	0	–	–	–	1	2.67	2.51	–	2	2.16	2.03	–	5	2.61	2.15	.96
Kutztown	4	2.75	3.01	.280	21	2.90	2.58	.34	30	2.78	2.77	.83	120	2.89	2.92	.67
Lock Haven	0	–	–	–	1	3.37	3.04	–	3	2.49	2.64	–	4	2.41	2.45	–
Mansfield	2	2.65	2.91	–	1	2.06	2.11	–	0	–	–	–	1	3.25	3.70	–
Millersville	1	3.40	3.26	–	2	2.59	2.29	–	5	3.17	2.64	–	3	2.70	2.73	–
Shippensburg	0	–	–	–	5	3.02	2.40	.72	3	2.63	2.52	–	8	2.94	2.70	.67
Slippery Rock	0	–	–	–	2	1.92	2.26	–	0	–	–	–	2	2.44	2.45	–
West Chester	–	–	–	–	1	2.12	2.36	–	2	2.45	2.36	–	9	2.82	2.74	.56
Lincoln	–	–	–	–	–	–	–	–	1	2.31	2.38	–	-	–	–	–
PSU - Main	1	2.25	3.69	–	5	2.80	2.74	.59	3	3.19	3.16	–	20	3.17	2.98	.52
PSU - Harrisburg	1	3.80	1.80	–	1	3.32	2.33	–	1	2.58	2.95	–	11	2.94	2.65	.68
Temple	0	–	–	–	5	2.15	2.51	.20	15	2.87	2.93	.41	14	2.83	2.66	.27
Drexel	0	–	–	–	0	–	–	–	0	–	–	–	3	3.37	2.15	–
Phila. Textile	1	3.40	3.26	–	0	–	–	–	1	2.45	2.33	–	1	2.05	2.27	–
Allentown College	1	3.40	3.00	–	11	3.19	3.24	.58	2	3.48	2.83	–	50	3.04	3.17	.68
Cedar Crest	1	3.60	2.85	–	10	3.02	2.77	.46	8	3.17	2.96	.90	36	3.20	3.29	.82
C. Misericordia	–	–	–	–	1	2.46	2.48	–	3	3.19	3.32	–	7	2.70	3.26	.76
Lafayette	–	–	–	–	3	3.39	2.66	–	2	3.55	2.50	–	10	3.15	2.84	.67
Lehigh	–	–	–	–	3	3.27	1.79	–	2	3.78	3.14	–	3	3.84	3.53	–
Moravian	–	–	–	–	3	2.91	2.72	–	4	2.86	2.38	–	10	3.11	3.07	.74
Muhlenberg	3	3.20	2.24	–	6	2.90	2.35	.72	7	3.00	2.72	.67	25	3.15	3.19	.67
Phila Pharmacy	1	3.78	3.39	–	–	–	–	–	–	–	–	–	–	–	–	–

Discussion

Table 4 was constructed to examine the GPA comparisons of students who transfer after completing different amounts of credit at LCCC. It is interesting to see how many students transfer to individual institutions within the groups and how the GPA's compare within the groups.

To address the question of a statistical difference in a student's GPA at LCCC and the transfer institution, the results of a T test for each credit group, at the 5% level of significance, indicated there is no evidence to significantly prove that the GPA's will be different. However, consider the four groups of credits and the difference in the LCCC and transfer GPA given below:

	N	LCCC Mean GPA	Transfer Mean GPA	Difference
Completed 15 credits	21	3.069	2.717	–.352
Completed 16-29 credits	97	2.860	2.609	–.251
Completed 30-49 credits	110	2.879	2.808	–.071
Completed 50 plus credits	382	2.92	2.968	–.004

These data show a slight improvement in GPA for students who complete more credits at LCCC before transferring. Note that in this sample of 610 transfer students, only 3% transferred with 15 credits, 16% transferred with 16-29 credits, and 18% transferred with 30-49 credits. 63% of the group completed at least 1-1/2 years at LCCC. These data dispel the misconception that community college students commonly "transfer early" or leave after one year. This misconception may have its origin in the fact that many community college students in Pennsylvania transfer without the associates degree. Actually, these data show that, using an academic achievement indicator (GPA) transfer students are academically competitive in their second semester freshman and sophomore years at the transfer institution. The correlations of these GPA's given in Table 4 do not show a consistent pattern of growth from lower to higher credits.

Table 4 demonstrates that LCCC retains transfer students who are academically achieving as they progress through associate degree programs and are well prepared to meet the academic challenges of the transfer institution.

Because the number of students and the number of credits earned varies greatly among the institutions studied, a formula was used to derive a weighted average correlation to describe the relationship between the LCCC and transfer mean GPA of the two groups of institutions:

Public Institutions: r = .59
Private Institutions: r = .62

We can conclude from this that the relationship between grades earned by LCCC transfer students at public and private institutions are similar.

The mean LCCC GPA of all 610 transfer students in this study is 2.940 and 2.874 at the transfer institution.

TABLE 5

Mean GPA Comparisons - Plus or Minus Differences

	N	Mean LCCC GPA	Mean Transfer GPA	Difference
Bloomsburg	35	2.91	2.66	–.25
California	1	2.63	2.93	+.30
Clarion	1	3.20	2.18	–1.02
East Stroudsburg	38	2.68	2.89	+.21
Edinboro	3	2.39	2.86	+.47
Indiana	8	2.50	2.17	–.33
Kutztown	175	2.87	2.86	–.01
Lock Haven	8	2.56	2.59	+.03
Mansfield	2	2.65	2.91	+.26
Millersville	11	2.96	2.66	–.30
Shippensburg	16	2.91	2.57	–.34
Slippery Rock	4	2.18	2.36	+.36
West Chester	12	2.70	2.65	–.05
Lincoln	1	2.31	2.38	+.07
PSU - Main	29	3.08	2.98	–.10
PSU - Harrisburg	14	3.01	2.59	–.42
Temple	34	2.75	2.76	–.01
Drexel	3	3.37	2.15	–1.22
Phila. Textile	3	2.63	2.62	–.01

TABLE 5 (cont.)

Allentown College	64	3.09	3.17	+.08
Cedar Crest	55	3.17	3.14	–.03
C. Misericordia	11	2.81	3.21	+.40
Lafayette	15	3.25	2.76	–.49
Lehigh	8	3.61	2.78	–.83
Moravian	17	3.02	2.87	–.15
Muhlenberg	41	3.09	2.92	–.17
Phila. Pharmacy	1	3.78	3.39	–.39

Discussion

This table isolates the mean GPA's given in Table 3 and gives the plus or minus differences. This table is useful to make the statement "on the average, the GPA's earned at (X) transfer institution were (greater) (less) than the GPA's earned at LCCC". The differences for institutions with less than 5 students should not be considered. Conversely, those with a large sample clearly illustrate the academic performance of LCCC transfer students.

TABLE 6

Degrees Earned by LCCC Transfer Students

	N	AA	AS	AAS	Total	% of N Who Transferred With Degree	Bachelors Degree Earned
Bloomsburg	66	19	1	5	25	38%	9
California	1	1	0	0	1	100%	1
Clarion	4	0	0	0	0	0	0
East Stroudsburg	68	17	0	10	27	40%	25
Edinboro	7	0	0	0	0	0	1
Indiana	16	2	0	1	3	19%	3
Kutztown	372	149	1	30	180	48%	92
Lock Haven	13	5	0	1	6	46%	3
Mansfield	13	2	0	0	2	15%	5

TABLE 6 (cont.)

	N	AA	AS	AAS	Total	% of N Who Transferred With Degree	Bachelors Degree Earned
Millersville	16	3	0	0	3	19%	5
Shippensburg	27	9	0	0	9	33%	9
Slippery Rock	8	1	0	0	1	12%	0
West Chester	25	3	2	1	6	24%	6
Lincoln	1	0	0	0	0	0	1
PSU - Main	39	5	5	4	14	36%	17
PSU - Harrisburg	26	2	4	11	17	65%	10
Temple	42	3	4	3	10	24%	11
Drexel	6	1	1	0	2	33%	1
Phila. Textile	6	0	0	0	0	0	3
Allentown College	150	35	0	45	80	53%	26
Cedar Crest	131	34	0	33	67	51%	29
C. Misericordia	22	3	0	17	20	91%	5
Lafayette	31	0	7	13	20	62%	4
Lehigh	22	4	3	2	9	41%	3
Moravian	37	10	0	12	22	59%	7
Muhlenberg	73	14	1	24	39	53%	15
Phila. Pharmacy	2	0	0	0	0	0	1

Discussion

N in Table 6 includes all students (those with prior college and those with less than 15 credits at transfer institution) who transferred.

52% of the transfer students in this study who earned the AA, AS, or AAS completed the baccalaureate degree. Only 11.4% of the students who did not earn an associate's degree before transferring earned the baccalaureate degree. While this research did not attempt to study completion rates, a tabulation of bachelor's degrees earned at a single point in time strongly suggests a BA, BS, or BSN completion advantage to those who earned the associate's degree at LCCC.

62% of the students transferred with the Associate in Arts (AA) or the Associate in Science (AS) and 30% transferred with the Associate in Applied Science(AAS).

This study identified a relatively large number of students who transferred with career or "occupational" AAS degrees. In a *Leadership Abstracts Article* – Strengthening the Transfer Function: From a "Zero Sum" Game to A "Win-Win" Situation, Judith S. Eaton says, "Transfer is a function of student intent rather than course content and is undertaken by students in all courses and programs, including those in occupational, as well as academic areas".[11] She further builds a strong case for AAS degree programs serving as "outstanding models for transfer effectiveness" because they share important characteristics that facilitate and strengthen transfer: program coherence, clear program goals, specific transfer articulation at the department level, and the challenge of external licensure or certification requirements.[11] The transfer of Occupational Therapy Assisting graduates to College Misericordia and their exemplary academic performance is a fine example of this point of view. The transfer of AAS technology programs to Penn State Harrisburg's Bachelor of Science in Engineering Technology is another example of the transferability of the AAS degree.

TABLE 7

PROGRAMS OF STUDY OF STUDENTS WHO TRANSFERRED

BLOOMSBURG

LCCC Programs of Study	27	of	63	Business
	12	of	63	Liberal Arts
	10	of	63	Education
	3	of	63	CJA
	3	of	63	ECE
	2	of	63	Engineering
	2	of	63	Computer Science
	2	of	63	Math, Social Studies
	1	of	63	Electrical Technology
	1	of	63	RCT

TABLE 7 (cont.)

Transfer Institution Major	22	of	63	Business
	11	of	63	Education
	6	of	63	Arts & Science
	3	of	63	Computer Information Science
	2	of	63	Psychology, Social Welfare
	2	of	63	Speech, Communications
	2	of	63	Math, Physics
	2	of	63	Criminal Justice
	3	of	63	History, English, Biology
	9	of	63	Undeclared

EAST STROUDSBURG

LCCC Programs of Study	27	of	66	Liberal Arts
	18	of	66	Education
	6	of	66	Business
	4	of	66	CJA
	3	of	66	PTA, OTA
	3	of	66	Engineering, Natural Science
	1	of	66	Electronics
	2	of	66	Social Science
	1	of	66	Early Childhood
	1	of	66	Hotel/Restaurant Management
Transfer Institution Majors	18	of	66	Education
	10	of	66	Health/Physical Education
	6	of	66	Recreation Management
	7	of	66	Business
	4	of	66	Sociology/Anthropology
	3	of	66	Nursing
	3	of	66	Physical, Earth Science
	5	of	66	English/Communications
	3	of	66	Psychology
	3	of	66	Biology, Chemistry
	1	of	66	Geography
	1	of	66	Podiatry
	2	of	66	Undeclared

TABLE 7 (cont.)

EDINBORO

LCCC Programs of Study	2	of	7	Education
	2	of	7	Liberal Arts
	1	of	7	CJA
	1	of	7	Natural Science
	1	of	7	Computer Science
Transfer Institution Majors	2	of	7	Computer Science
	2	of	7	Psychology
	1	of	7	Criminal Justice
	1	of	7	Education
	1	of	7	Undeclared

INDIANA OF PA

LCCC Programs of Study	7	of	15	Liberal Arts
	4	of	15	CJA
	1	of	15	Hotel/Restaurant Management
	1	of	15	Travel & Tourism
	1	of	15	Social Science
	1	of	15	Automotive Technology
Transfer Institution Majors	4	of	15	Criminal Justice
	2	of	15	English, Communications
	1	of	15	Fashion Merchandising
	1	of	15	Hotel/Restaurant Management
	1	of	15	Anthropology
	6	of	15	Undeclared

KUTZTOWN

LCCC Programs of Study	133	of	272	Liberal Arts
	85	of	372	Education
	83	of	372	Business
	30	of	372	CJA
	9	of	372	Computer Science
	6	of	372	Technologies
	3	of	372	Engineering
	3	of	372	Nursing, PTA, MRT
	3	of	372	Early Childhood Education
	17	of	372	AA Transfer Programs

TABLE 7 (cont.)

Transfer Institution Majors	120	of	372	Education
	95	of	372	Business
	28	of	372	Criminal Justice
	21	of	372	Psychology
	15	of	372	Nursing
	14	of	372	English
	7	of	372	Speech
	7	of	372	Communications
	5	of	372	Library Science
	7	of	372	Computer Science
	4	of	372	History
	4	of	372	Political Science, Public Adm.
	2	of	372	Math, Physics
	5	of	372	Anthropology
	3	of	372	Spanish, Russian
	4	of	372	Biology, Environmental Science
	3	of	372	Social Welfare
	3	of	372	Medical Technology
	5	of	372	Extended Learning
	20	of	372	Undeclared

LOCK HAVEN

LCCC Programs of Study	8	of	13	Liberal Arts
	2	of	13	Business Programs
	1	of	13	Education
	1	of	13	Practical Nursing
	1	of	13	Math
Transfer Institution Majors	2	of	13	Business Programs
	3	of	13	Health Science, Physical Educ.
	1	of	13	Information Science
	1	of	13	Early Childhood Education
	2	of	13	Math, Engineering
	1	of	13	Social Welfare
	3	of	13	Undeclared

TABLE 7 (cont.)

MANSFIELD

LCCC Programs of Study	3	of	13	Liberal Arts
	2	of	13	Business Programs
	2	of	13	Education
	2	of	13	Math
	3	of	13	CJA
Transfer Institution Majors	2	of	13	Liberal Arts
	3	of	13	Education
	2	of	13	Business Programs
	3	of	13	Criminal Justice
	3	of	13	Unspecified

MILLERSVILLE

LCCC Programs of Study	6	of	16	Education
	5	of	16	Liberal Arts
	2	of	16	Business
	2	of	16	Math, Engineering
	1	of	16	Humanities, Arts
Transfer Institution Majors	7	of	16	Education
	3	of	16	Business Programs
	3	of	16	Math
	1	of	16	English
	2	of	16	Unspecified

SHIPPENSBURG

LCCC Programs of Study	10	of	27	Liberal Arts
	8	of	27	CJA
	4	of	27	Business
	4	of	27	Education
	1	of	27	Social Science
Transfer Institution Majors	10	of	27	Criminal Justice
	5	of	27	Education
	5	of	27	Business
	2	of	27	Math, Science
	1	of	27	Communication
	2	of	27	Social Work, Public Adm.
	2	of	27	Unspecified

TABLE 7 (cont.)

SLIPPERY ROCK

LCCC Programs of Study	3	of	8	Liberal Arts
	1	of	8	Business Programs
	2	of	8	Education
	2	of	8	PTA, Natural Science
Transfer Institution Majors	4	of	8	Education
	1	of	8	Business Programs
	3	of	8	Unspecified

WEST CHESTER

LCCC Programs of Study	10	of	25	Liberal Arts
	7	of	25	Education
	4	of	25	CJA
	3	of	25	Business Programs, Computer Science
	1	of	25	ECE
Transfer Institution Majors	9	of	25	Education
	5	of	25	Criminal Justice
	4	of	25	Computer Science, Business
	2	of	25	Nursing
	3	of	25	English, Psychology
	2	of	25	Math, Science

PSU - MAIN

LCCC Programs of Study	11	of	38	Business Programs
	10	of	38	Liberal Arts
	5	of	38	Engineering
	3	of	38	Math, Natural Science
	3	of	38	Electronics, Drafting
	3	of	38	Computer Science, CIS
	1	of	38	Hotel/Restaurant Management
	2	of	38	Education, PTA

TABLE 7 (cont.)

Transfer Institution Majors	13	of	38	Business Programs
	5	of	38	Engineering
	7	of	38	Psychology, Social Science
	4	of	38	Science
	1	of	38	Chemistry
	2	of	38	Arts & Science, Communications
	2	of	38	Education
	2	of	38	Labor Studies, History
	2	of	38	General Studies

PSU - HARRISBURG

LCCC Programs of Study	8	of	25	Electrical Engineering Tech.
	6	of	25	Mechanical Engineering Tech.
	2	of	25	Engineering
	3	of	25	Liberal Arts
	2	of	25	Business Programs
	2	of	25	CJA
	2	of	25	Natural Science, Social Science
Transfer Institution Majors	9	of	25	Mechanical Engineering Tech.
	3	of	25	Electrical Engineering Tech.
	3	of	25	Engineering
	2	of	25	Humanities
	2	of	25	Social Science
	2	of	25	Education
	1	of	25	Business
	3	of	25	Unspecified

TEMPLE

LCCC Programs of Study	10	of	39	Business Programs
	7	of	39	Liberal Arts
	6	of	39	Mechanical Engineering Tech.
	5	of	39	Engineering
	3	of	39	Electrical Engineering Tech.
	5	of	39	Natural Science
	2	of	39	Math, Computer Science
	1	of	39	CJA

TABLE 7 (cont.)

Transfer Institution Majors	11	of	39	Business Programs
	6	of	39	Engineering
	6	of	39	Mechanical Engineering Tech.
	3	of	39	Electrical Engineering Tech.
	3	of	39	Psychology
	2	of	39	Industrial Education
	1	of	39	Physical Education
	1	of	39	Nursing
	3	of	39	Pharmacy
	2	of	39	English, Journalism
	1	of	39	Health Records
	1	of	39	Political Science
	1	of	39	Architecture

PHILA. TEXTILE

LCCC Programs of Study	2	of	6	Fashion Merchandising
	2	of	6	Liberal Arts
	2	of	6	Business, Computer Science
Transfer Institution Majors	4	of	6	Fashion Merchandising
	2	of	6	Business, Computer Science

DREXEL

LCCC Programs of Study	5	of	6	Engineering
	1	of	6	Electrical Engineering Tech.
Transfer Institution Majors	3	of	6	Engineering
	1	of	6	Chemistry
	1	of	6	Architecture
	1	of	6	Information Systems

ALLENTOWN COLLEGE

LCCC Programs of Study	69	of	146	Business
	9	of	146	Computer Science
	11	of	146	Computer Information Systems
	20	of	146	Liberal Arts
	10	of	146	CJA
	13	of	146	ADN, PN, OTA, RCT, PTA, MRT
	4	of	146	Education, Natural Science
	10	of	146	Electronics, MET

TABLE 7 (cont.)

Transfer Institution Majors	80	of	170	Business
	20	of	170	Computer Science
	12	of	170	Criminal Justice
	12	of	170	Liberal Arts
	10	of	170	Nursing
	3	of	170	English, Foreign Language
	4	of	170	Psychology
	2	of	170	Politics
	3	of	170	Liberal Studies

CEDAR CREST

LCCC Programs of Study	54	of	125	Business
	43	of	125	Liberal Arts
	8	of	125	Education
	4	of	125	Computer Information Systems
	5	of	125	ADN, PN, RCT, PTA, ECE, MRT
	5	of	125	Math, Natural Science
	4	of	125	Social Science, Humanities
	2	of	125	Mechanical Technology
Transfer Institution Majors	34	of	125	Business
	17	of	125	Nursing
	10	of	125	English, Communications
	12	of	125	Education
	3	of	125	Biology
	7	of	125	History, Psychology, Sociology
	1	of	125	Public Adm.
	1	of	125	Genetic Engineering Tech.
	40	of	125	Undeclared

COLLEGE MISERICORDIA

LCCC Programs of Study	16	of	22	OTA
	1	of	22	Computer Science
	2	of	22	PTA, RCT
	1	of	22	Education
	1	of	22	Liberal Arts
	1	of	22	Business Administration

TABLE 7 (cont.)

Transfer Institution Majors	14	of	22	Occupational Therapy
	2	of	22	Nursing
	2	of	22	Business Administration, Computer Science
	1	of	22	Biology
	3	of	22	Undeclared

DREXEL

LCCC Programs of Study	5	of	6	Engineering
	1	of	6	Electrical Engineering Tech.
Transfer Institution Majors	3	of	6	Engineering
	1	of	6	Architecture
	1	of	6	Chemistry
	1	of	6	Information Systems

LAFAYETTE

LCCC Programs of Study	15	of	35	Engineering
	12	of	35	Engineering Technology
	7	of	35	Liberal Arts, Math, Natural Science, Education
	1	of	35	Business
Transfer Institution Majors	25	of	35	Engineering
	10	of	35	Unspecified

LEHIGH

LCCC Programs of Study	8	of	16	Engineering
	7	of	16	Liberal Arts
	1	of	16	Business
	2	of	16	Natural Science, Social Science
	2	of	16	Computer Science
	1	of	16	Physical Therapist Assistant

TABLE 7 (cont.)

Transfer Institution Majors	11	of	16	Engineering
	3	of	16	Arts and Sciences
	2	of	16	Business

MORAVIAN

LCCC Programs of Study	12	of	37	Liberal Arts
	10	of	37	Business
	4	of	37	Computer Science
	5	of	37	Education, Social Science, Math
	1	of	37	Electronics
	2	of	37	Engineering
	2	of	37	PTA, RCT
	1	of	37	CJA
Transfer Institution Majors	3	of	37	Political Science
	4	of	37	Computer Science
	10	of	37	Business
	4	of	37	Sociology, Education, Psychology
	2	of	37	Biology
	2	of	37	Art
	1	of	37	Engineering
	1	of	37	Music
	9	of	37	Undeclared

MUHLENBERG

LCCC Programs of Study	15	of	71	Liberal Arts
	31	of	71	Business
	9	of	71	Computer Science/CIS
	5	of	71	OTA, RCT
	4	of	71	Education, Social Science, Math
	3	of	71	Natural Science
	4	of	71	Electronics, IET
Transfer Institution Majors	23	of	71	Business
	5	of	71	International Studies
	4	of	71	Human Resources
	4	of	71	History, Political Science, Russian Studies
	3	of	71	Natural Science
	1	of	71	Drama
	3	of	71	Psychology
	28	of	71	Undeclared

TABLE 7 (cont.)

PHILA. PHARMACY

LCCC Programs of Study	2	of	2	LA
Transfer Institution Majors	2	of	2	Pharmacy

NORTHAMPTON COMMUNITY COLLEGE

LCCC Programs of Study	4	of	192	CIS
	17	of	192	Business
	106	of	192	Liberal Arts
	5	of	192	Education, Social Science
	15	of	192	Math, Natural Science
	10	of	192	Electronical, Drafting, IET
	5	of	192	CJA
	30	of	192	Allied Health
NCC Majors	79	of	192	Nursing
	15	of	192	Dental Hygiene
	1	of	192	Dental Assistant
	1	of	192	Cognitive Retraining
	5	of	192	Funeral Services
	10	of	192	Architecture
	1	of	192	Education
	5	of	192	Business Administration
	4	of	192	Radiology
	1	of	192	Fire Technology
	6	of	192	Art Education
	2	of	192	Medical Lab
	1	of	192	Computer Science
	2	of	192	Banking
	3	of	192	Library Science
	2	of	192	CJA
	1	of	192	Welding
	2	of	192	Radio/Communications
	1	of	192	Drafting
	1	of	192	Emergency Medical

Geographic Distribution of LCCC Students Who Transferred to Northampton Community College - By County and School District

Lehigh County	N	69%
Allentown	63	
Catasauqua	9	
East Penn	22	
Northern Lehigh	11	
Southern Lehigh	8	
Salisbury	1	
Parkland	12	
Whitehall	21	
Northwestern	3	

Carbon County	N	13%
Lehighton	13	
Palmerton	7	
Panther Valley	6	
Jim Thorpe	2	
Northampton County	32	15%
Berks County	5	2%
Out-of-State	2	1%

Northampton Community College

455 LCCC records were sent to NCC. 312 were from students who completed more than 15 credits, 92 from students who completed less than 15 credits and 51 from students who attended summer only.

210 or 46% of the students who applied matriculated at NCC. No attempt was made to compare the academic records of LCCC students who transferred to NCC with four year colleges and universities. A sample of 107 students were selected with the same controls used in the study and this group had a LCCC mean cumulative GPA of 3.02 and 2.89 at NCC.

St. Lukes Hospital School of Nursing

109 LCCC records were sent to St. Lukes. 71 were from students who completed more than 15 credits, 27 from students who completed less than 15 credits and 11 from students who attended summer only.

63 or 58% of the students who applied were either recently admitted, currently attending, or withdrawn from the nursing school.

No attempt was made to compare the academic records of LCCC students who transferred to St. Lukes with four year colleges and universities. However, records of 39 students were received and a sample of 18 students were selected with the same controls used in the study and this group had an LCCC mean cumulative GPA of 2.71 and 2.62 at St. Lukes. 12 students from this group of 109 were graduated with a diploma. Many students were attending part-time or recently admitted so a completion rate statement for diplomas would not be meaningful.

TABLE 8

% Age Distribution

	N	19/21 %	22/35 %	36/54 %	55+ %
Bloomsburg	66	35	61	4	0
California	1	0	100	0	0
Clarion	4	0	100	0	0
East Stroudsburg	68	13	77	10	0
Edinboro	7	71	29	0	0
Indiana	16	31	69	0	0
Kutztown	372	19	63	18	0
Lock Haven	13	23	77	0	0
Mansfield	13	31	69	0	0
Millersville	16	12	82	6	0
Shippensburg	27	26	74	0	0
Slippery Rock	8	63	37	0	0
West Chester	25	24	72	4	0
Lincoln	1	0	100	0	0
PSU - Main	39	20	77	3	0
PSU - Harrisburg	26	8	92	0	0
Temple	42	24	69	7	0
Drexel	6	0	83	17	0
Phila. Textile	6	33	67	0	0
Allentown	150	3	71	26	0
Cedar Crest	131	8	51	39	3
C. Misericordia	22	4	66	30	0
Lafayette	32	0	86	14	0
Lehigh	22	13	73	14	0
Moravian	37	3	76	21	0
Muhlenberg	73	8	68	24	0
Phila. Pharmacy	2	0	100	0	0

Discussion

Table 8 shows the relatively large percentage of adults who transferred in the past five years compared to the traditional 9/21 age group.

TABLE 9

LCCC Transfer Students Who Were Graduated From Vocational-Technical Schools

TRANSFER INSTITUTION	Vo-Tech School	Year HS Grad.	LCCC Program	LCCC Degree	Transfer Major
Edinboro	Lehigh County VTS	1987	Comp. SCI	–	Comp. SCI
East Stroudsburg	Lehigh County VTS	1987	Hotel/Rest. Mgt.		Undeclared
Kutztown	Lehigh County VTS	74	LA	–	Social Welfare
	Lehigh County VTS	83	LA	AA	Education
	Lehigh County VTS	83	PN	AAS	Telecomm.
	Lehigh County VTS	85	LA	AA	Psychology
	Lehigh County VTS	88	LA	AA	Bus. Adm.
Millersville	Bethlehem Area VTS	86	Education	–	Education
PSU - Main	Montgomery County VTS	86	PTA	AAS	Health Edu.
	Lehigh County VTS	77	EET(T)	AS	Engineering
PSU - Harrisburg	Lehigh County VTS	87	MET(T)	AS	M.E.T.
Temple	Lehigh County VTS	75	LA	–	Education
	Bucks County VTS	83	LA	–	Commun.
Allentown College	Lehigh County VTS	74	BA	AA	Accounting
	Lehigh County VTS	75	B. Mgt.	AAS	Management
	Carbon County VTS	81	B. Mgt.	AAS	Accounting
	Bethlehem Area VTS	82	BA	–	Management
	Lehigh County VTS	87	Comp. SCI	–	Comp. SCI
Cedar Crest	Bethlehem Area VTS	71	B. Mgt.	AAS	Bus. Adm.
Lafayette	Bethlehem Area VTS	81	M.E.T.	–	Engineering
Muhlenberg	Lehigh County VTS	84	Social Science	–	Psychology
	Lehigh County VTS	87	Comp. SCI	–	Info. SCI
	Lehigh County VTS	88	Comp. SCI	–	Info. SCI

TABLE 9 (cont.)

TRANSFER INSTITUTION	Vo-Tech School	Year HS Grad.	LCCC Program	LCCC Degree	Transfer Major
Northampton Community College	Bethlehem Area VTS	72	LA	–	Gen. Studies
	Lehigh County VTS	77	EET	–	Gen. Studies
	Bethlehem Area VTS	80	ADN	–	Nursing
	Montgomery County VTS	82	LA	–	Nursing
	Lehigh County VTS	83	LA	–	Dental Hygiene
	Lehigh County VTS	83	Natural SCI	AAS	Nursing
	Lehigh County VTS	85	Medical Asst.	AAS	Nursing
	Lehigh County VTS	87	LA	–	Gen. Studies
	Monroe County VTS	87	LA	–	Nursing
	Lehigh County VTS	88	LA	AAS	Art Advert.
St. Lukes	Lehigh County VTS	77	LA	–	Nursing
	Lehigh County VTS	86	PN	Cert.	Nursing
	Carbon County VTS	88	PN	Cert.	Nursing

Discussion

36 students who transferred from LCCC in the past 5 years were vocational-technical school graduates. About half entered business, computer science, and allied health majors at the transfer institution.

TABLE 10

Distribution of LCCC Transcript Requests By LCCC Students to Colleges & Universities in Pennsylvania

Institution	Credits Completed at LCCC: Over 15 Credits	Less Than 15 Credits	Summer Only	Total
State Universities:				
Bloomsburg University of PA	116	56	47	219
California University of PA	2	4	2	8
Cheyney University of PA	0	0	0	0
Clarion University of PA	8	2	4	14
East Stroudsburg University of PA	126	45	33	204
Edinboro University of PA	8	1	2	11
Indiana University of PA	28	0	12	40
Kutztown University of PA	496	169	86	751
Lock Haven University of PA	32	0	20	52
Mansfield University of PA	29	1	12	42
Millersville University of PA	44	5	31	80
Shippensburg University of PA	54	14	34	102
Slippery Rock University of PA	14	1	1	16
West Chester University of PA	59	11	25	95
State-Related Commonwealth Universities:				
Lincoln University	1	0	0	1
The Pennsylvania State University				
• Berks Campus	3	4	0	7
• Hazelton Campus	0	1	0	1
• Harrisburg Campus	46	3	1	50
• Schuylkill Campus	3	3	1	7
• University Park Campus	124	94	55	273
Temple University	116	22	14	152

TABLE 10 (cont.)

Institution	Over 15 Credits	Less Than 15 Credits	Summer Only	Total
State-Aided Colleges and Universities:				
Delaware Valley College of Science and Agriculture	4	3	4	11
Drexel University	13	7	3	23
Hahnemann University School of Allied Health Professions	8	9	1	18
Philadelphia College of Textiles and Science	6	1	3	10
Thomas Jefferson University College of Allied Health Sciences	7	4	1	12
University of Pennsylvania	3	1	0	4
University of the Arts	1	0	0	1
Private Colleges and Universities:				
Albright College	8	1	4	13
Allegheny College	1	0	0	1
Allentown College of St. Francis de Sales	389	56	39	484
Alvernia College	4	22	5	31
Beaver College	1	3	1	5
Bucknell University	1	1	0	2
Cabrini College	1	3	0	4
Carlow College	1	3	0	4
Carnegie-Mellon University	3	5	1	9
Cedar Crest College	271	65	27	366
Dickinson College	0	2	1	3
Duquesne University	1	1	2	4
Eastern College	1	1	2	4
Elizabethtown College	0	11	2	13
Gannon University	2	1	0	3

TABLE 10 (cont.)

Institution	Over 15 Credits	Less Than 15 Credits	Summer Only	Total
Grove City College	1	1	1	3
Gwynedd-Mercy College	8	6	1	15
Immaculata College	1	1	0	2
Juniata College	1	0	2	3
King's College	7	3	3	13
Lafayette College	48	8	8	64
LaRoche College	0	1	0	1
LaSalle University	4	4	1	9
Lebanon Valley College	3	4	4	11
Lehigh University	32	15	14	61
Marywood College	8	3	3	14
Neumann College	1	0	0	1
Robert Morris College	1	1	0	2
Rosemont College	1	1	0	2
Saint Joseph's University	6	3	0	9
Seton Hill College	1	0	0	1
Spring Garden College	11	0	0	11
University of Scranton	5	0	9	14
Ursinus College	4	1	4	9
Villanova University	9	6	0	15
Widener University	7	5	4	16
Wilkes College	19	9	7	35
York College of Pennsylvania	9	19	0	28
Private Junior Colleges:				
Harcum Junior College	0	0	7	7
Keystone Junior College	2	0	4	6
Lackawanna Junior College	0	1		1
Manor Junior College	0	0	2	2

TABLE 10 (cont.)

Institution	Over 15 Credits	Less Than 15 Credits	Summer Only	Total
Community Colleges				
Bucks County Community College	2	2	2	6
Community College of Allegheny County	2	1	0	3
Community College of Philadelphia	1	2	0	3
Delaware County Community College	3	1	0	4
Harrisburg Area Community College	9	1	0	10
Luzerne County Community College	7	2	0	9
Montgomery County Community College	1	1	0	2
Northampton County Area Community College	312	92	51	455
Pennsylvania College of Technology	4	12	9	25
Reading Area Community College	3	4	0	7
St. Luke's School of Nursing	107	27	11	145
Episcopal Hospital School of Nursing	1	0	0	1
Reading Hospital School of Nursing	3	2	0	5
Pottsville	5	0	0	5
Geisinger Medical Center	1	0	0	1
TOTAL	**2,696**	**901**	**623**	**4,220**

TABLE 11

Distribution of LCCC Transcript Requests By LCCC Students to Out-of-State Colleges and Universities

	More Than 15 credits	Less Than 15 credits	AA	AS	AAS	Cert.	Summer Only
Alabama	10	5	0	0	0	0	5
Arkansas	0	0	0	0	0	0	0
Arizona	7	7	2	1	0	0	4
California	32	7	1	0	10	0	3
Colorado	7	4	0	0	0	0	4
Connecticut	8	4	1	0	3	0	3
Delaware	8	18	1	0	0	0	11
Florida	85	25	20	4	5	4	10
Georgia	5	6	3	1	0	0	6
Idaho	3	0	1	0	0	0	
Illinois	11	11	1	1	4	2	1
Indiana	3	4	2	0	2	0	1
Iowa	6	2	0	0	0	0	2
Hawaii	6	1	2	0	0	0	0
Kansas	4	1	0	1	0		1
Kentucky	8	4	0	0	3	0	2
Louisiana	3	1	1	0	0	0	0
Maine	1	2	0	0	0	0	0
Maryland	42	13	3	0	14	0	3
Massachusetts	18	6	5	4	3	0	4
Montana	1	1	0	0	1	0	0
Michigan	3	1	1	0	0	0	0
Minnesota	1	1	0	0	0	0	0
Mississippi	0	2	0	0	0	0	0
Missouri	9	6	2	0	4	0	1
Nebraska	3	1	0	0	0	0	0
Nevada	3	0	2	0	0	0	0
New Hampshire	2	2	0	0	0	0	1

TABLE 11 (cont.)

	More Than 15 credits	Less Than 15 credits	AA	AS	AAS	Cert.	Summer Only
New Jersey	51	35	4	2	11	4	12
New Mexico	7	2	2	2	0	0	0
New York	66	54	20	3	9	2	14
North Carolina	14	23	1	0	2	0	10
North Dakota	2	1	0	0	1	0	0
Ohio	25	6	2		1	1	4
Oklahoma	2	4	0	0	0	1	2
Oregon	1	0	0	0	0	0	0
Pennsylvania							
Rhode Island	8	4	0	1	0	0	1
South Dakota	0	0	0	0	0	0	0
South Carolina	31	9	3	0	3	0	3
Tennessee	4	4	1	1	0	0	1
Texas	19	14	4	0	3	0	3
Utah	3	4	0	0	0	1	0
Vermont	3	1	0	0	0	0	1
Virginia	29	16	3	0	3	4	6
Washington	2	0	0	0	0	0	0
Washington D.C.	10	12	2	2	0	0	7
West Virginia	8	8	0	1	2	0	4
Wisconsin	4	2	0	0	1	0	0
Wyoming	2	0	0	0	0	0	
Puerto Rico	0	2	0	0	0	0	0
Foreign	4	0	0	0	0	0	0
TOTAL	**584**	**336**	**72**	**24**	**85**	**19**	**130**

Discussion

1,050 transcript requests forms were addressed to colleges and universities out-of-state. Although these data do not control in any way for actual transfer or duplication of requests (approximately 30%) sent to other institutions, a geographic perspective is gained and some institutions with programs of study of interest to students in our service area identified.

Comments

The utilization of LCCC summer courses by residents in our service area who are matriculated at out-of-state institutions warrants continued attention when planning summer session advertising campaigns.

There is a pattern of students taking one or two courses at LCCC and sending transcripts to several out-of-state institutions in a "shot gun" pattern.

Physical Therapist Assisting, Occupational Therapy Assisting, and Respiratory Care students send a large number of transcripts to Kean College, New Jersey, University of Maryland, University of South Carolina, University of Texas, and Texas Women's University. The majority of AAS degree transcripts are allied health programs. LCCC should consider developing the transfer potential of these programs by establishing a special section in the LRC Career Collection.

Eastern Kentucky University is a popular transfer institution for Criminal Justice students.

Rochester Institute of Technology is a popular transfer institution for electronics students.

As our aviation program grows there will be increasing interest for transfer. Embry Riddle Aeronautical University has a campus in Florida and Arizona and has already attracted LCCC aviation students.

LCCC placement reports from the past six years identify out-of-state institutions accepting LCCC transfer students:

1985	Chowan College, Murfreesboro, North Carolina	1
	Northwestern University, Chicago, Illinois	1
	Roger Williams College, Bristol, Rhode Island	1
	Towson State University, Towson, Maryland	1
	Trenton State College, Trenton, New Jersey	1
	Youngstown State University, Youngstown, Ohio	1

1986	Arizona State University, Temple, Arizona	1
	Brigham Young University, Provo, Utah	1
	James Madison University, Harrisonburg, Virginia	1
	Northeastern University, Boston, Massachusetts	1
	Oklahoma State University, Stillwater, Oklahoma	1
	Palmer College of Chiropractic, Devenport, Iowa	1
	University of North Carolina, Charlotte, North Carolina	1
	University of South Carolina, Columbia, South Carolina	1
	Utica College of Syracuse University, Syracuse, New York	1
1987	Broome Community College, Binghamton, New York	1
	California College of Health Sciences, Pasadena, California	1
	Cornell University, Ithaca, New York	1
	Emerson College, Boston, Massachusetts	1
	Florida Southern College, Lakeland, Florida	1
	Houghton College, Houghton, New York	1
	Northeastern University, Chicago, Illinois	1
	Rochester Institute of Technology, Rochester, New York	1
	Southern Connecticut State University, New Haven, Connecticut	1
	State University of New York, Brockport, New York	1
	University of Maryland, Catonsville, Maryland	1
	University of New Mexico, Albuquerque, New Mexico	1
	West Virginia University, Morgantown, West Virginia	1
1988	California College of Allied Health Sciences, Pasadena California	1
	City College of New York, New York, New York	1
	New York Medical College, New York, New York	1
	Rider College, Lawrenceville, New Jersey	1
	Rochester Institute of Technology, Rochester, New York	2
	University of Arizona, Tucson, Arizona	1
	University of Florida, Gainesville, Florida	1
	University of Massachusetts, Amherst, Massachusetts	2
	West Virginia University, Morgantown, West Virginia	1
1989	Keuka College, Keuka Park, New York	1
	New York Chiropractic College, Glen Head, New York	1
	Texas Woman's University, Denton, Texas	1
	University of Nevada, Las Vegas, Nevada	1
	University of North Florida, Jacksonville, Florida	1

1990	Brigham Young University, Provo, Utah	1
	Christ for the Nation Bible College, Long Island, New York	1
	Greenville Technical College, Greenville, South Carolina	1
	New Mexico Institute of Mining & Technology, Socorro, New Mexico	1
	Rutgers University, Piscataway, New Jersey	1
	University of Idaho, Moscow, Idaho	1
	West Virginia Institute of Technology, Montgomery, West Virginia	1

CONCLUSIONS AND RECOMMENDATIONS

The methodology used in this study to establish a large and complete data base and direct communication with the transfer institution's records officers yielded information that presents an accurate understanding of the academic achievement of LCCC students who transferred to senior colleges and universities in Pennsylvania. The data shows that LCCC students are competitive at the transfer institution, earning grade point averages almost identical to and many times higher after transfer. The LCCC transfer student is well prepared for baccalaureate course work.

At this time it is difficult to compare these findings with statewide data because of the inconsistencies in data collection caused by different definitions of transfer and the absence of tracking data from other community colleges and transfer colleges and universities. This will change and improve in the future but with past transfer outcomes research and this current study, LCCC can continue to say to our public and to higher education that we are doing very well in meeting one of the missions of the college to "provide transfer education for those who plan to continue their studies".

Very clearly there is a need for transfer student tracking systems at the state level and also between community colleges and individual transfer institutions. None of the institutions in this study, including LCCC, had information readily available to identify LCCC transfer students and most could only provide transcript information rather than a computer-generated transfer report. Two institutions provided excellent information from a program that used a code for Lehigh County Community College. The potential for transfer articulation is available with current computer systems at individual institutions. This potential should soon be implemented in compliance with the Student Right-to-Know and Campus Security Act of 1991.

To improve the college's marketing and recruiting of transfer students and to improve the services available to enrolled students, the following recommendations are submitted:

1. Implement a transfer student tracking system that will:

    a. Utilize the Transcript Request Form as a data source to identify transfer students

    b. Obtain the student's signature that will authorize the future release of the transfer institution's academic records on all Transcript Request Forms institution[9]

    c. Enable the college to determine a "transfer rate" calculated by using, as a base, all students entering in a given year who have had no prior college experience and who stay at the college long enough to complete at least 12 transferrable credits and who take one or more classes at a baccalaureate degree institution

    d. Produce data for an annual report on transfer student outcomes

2. Actively seek more written transfer agreements with colleges and universities.

3. Develop program to program articulation and course comparison guides for Associate in Applied Science Degree programs with related departments at other colleges and universities.

4. Foster formal and informal dialog with community college and transfer institution faculty.

5. Increase the time professional staff in the student services division devote to direct transfer services to students.

6. Develop contacts with high school counselors and senior college admissions officers to identify and assist potential minority transfer students.

7. Send copies of transfer related materials such as newsletters, transfer Thursday schedules, and reports on the success of transfer students to high school counselors.

8. Continue the annual College Night program for high school students, parents and the general public.

9. Continue the transfer Thursday program for LCCC students.

10. Since so many students in AAS programs transfer, send transfer related announcements to all LCCC students, not just to those enrolled in AA or AS programs.

11. Plan joint programs with high schools and vocational-technical schools to promote 2 + 2 + 2 programs.

12. Strengthen transfer advisement services to business and computer science students because of the large number of students who transfer from these programs.

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